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COMMISSION STAFF WORKING DOCUMENT

Technical information

Accompanying the document

Report from the Commission to the European Parliament and the Council

**Preparing the ground for raising long-term ambition
EU Climate Action Progress Report 2019**

{COM(2019) 559 final}

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1. OVERVIEW OF EU CLIMATE TARGETS

Table 1: Overview of EU climate targets.

	International commitments		EU domestic legislation				
	The EU's commitment under the Kyoto Protocol	The EU's commitment under the Paris Agreement	2020 Climate and Energy Package		2030 Climate and Energy Framework		
			EU ETS	Effort Sharing Decision (ESD)	EU ETS	Effort Sharing Regulation (ESR)	LULUCF
Target year of period	Second commitment period (2013-2020) (target for EU-28)	Already in force – covers the period post 2020	2013-2020	2013-2020	2021-2030	2021-2030	2021-2030
Emission reduction target	-20 %	at least -40 % in 2030	-21 % in 2020 compared to 2005 for ETS emissions	Annual targets by MS. In 2020 -10 % compared to 2005 for non-ETS emissions	-43 % in 2030 compared to 2005 for ETS emissions	Annual targets by MS. In 2030 -30 % compared to 2005 for non-ETS emissions	0% (no-debit target based on accounting rules)
			Overall target: -20 % GHG emissions reduction vs 1990"		Overall target: at least -40 % domestic GHG emissions reduction vs 1990		
Further targets	-	<ul style="list-style-type: none"> limiting global warming to well below 2°C.; every 5 years to set more ambitious targets as required by science; report on implementation/ track progress towards the long-term goal through a robust 	✓Renewable Energy Directive: 20 % share of renewable energy of gross final energy consumption;		✓At least 32 % share of renewable energy in EU energy consumption (with an upward review by 2023);		
			✓Energy Efficiency Directive : Increase energy efficiency by 20 %.		✓At least 32.5 % improvement in energy efficiency (with an upward review by 2023).		

	International commitments		EU domestic legislation				
	The EU's commitment under the Kyoto Protocol	The EU's commitment under the Paris Agreement	2020 Climate and Energy Package		2030 Climate and Energy Framework		
			EU ETS	Effort Sharing Decision (ESD)	EU ETS	Effort Sharing Regulation (ESR)	LULUCF
		transparency and accountability system. • balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century.					
Base year	1990, but subject to flexibility rules. 1995 or 2000 may be used as its base year for NF3	1990	2005	2005	2005	2005	Subject to accounting rules
			1990 for overall emission reduction target		1990 for overall emission reduction target		
LULUCF	Included: afforestation, reforestation and deforestation (ARD) and forest management, other activities if elected (new accounting rules)	Included: Contributes to the commitment of decreasing emissions by at least -40%.	Excluded from target, but reported in inventories.		Included: Contributes to the commitment of decreasing emissions by at least -40%.		
Aviation ¹	Domestic aviation included.	Economy-wide action encouraged	EU ETS: Domestic (national)	ESD: Aviation generally	EU ETS: Domestic and some	ESR: Aviation generally	

¹ May be reviewed in the light of the implementation of ICAO's global measure.

	International commitments		EU domestic legislation				
	The EU's commitment under the Kyoto Protocol	The EU's commitment under the Paris Agreement	2020 Climate and Energy Package		2030 Climate and Energy Framework		
			EU ETS	Effort Sharing Decision (ESD)	EU ETS	Effort Sharing Regulation (ESR)	LULUCF
	International aviation not attributed.		and some international aviation included.	excluded	international aviation included.	excluded	
Use of international credits	Use of KP flexible mechanisms subject to KP rules	The EU will not use international credits (according to its NDC)	Upper limit for credit use for period 2008-2020 at a maximum of 50 % of the reduction effort below 2005 levels	Annual use of carbon credits is limited to up to 3 % of each Member State's ESD emissions in 2005 ²	No ³	No	No
Carry-over of units from preceeding periods⁴	Subject to KP rules including those agreed in the Doha Amendment	No	EU ETS allowances can be banked into subsequent ETS trading periods since the second trading period	No carry over from previous period	Indefinite validity of allowances not limited to trading periods, no need to carry over.	No	No
Gases covered	CO ₂ , CH ₄ , N ₂ O, HFCs ⁵ , PFCs, SF ₆ , NF ₃	CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆ , NF ₃	CO ₂ , N ₂ O, PFCs,	CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆	CO ₂ , N ₂ O, PFCs,	CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆ , NF ₃	CO ₂

² Member States that do not use their 3 % limit for the use of international credits in any specific year can transfer the unused part of their limit to another Member State or bank it for their own use until 2020. Member States fulfilling additional criteria (Austria, Belgium, Cyprus, Denmark, Finland, Ireland, Italy, Luxembourg, Portugal, Slovenia, Spain and Sweden) may use credits from projects in Least Developed Countries (LDCs) and Small Island Developing States (SIDS) up to an additional 1 % of their verified emissions in 2005. These credits are not bankable and transferable. A maximum of approximately 750 Mt of international credits can be used during the period from 2013 to 2020 in the ESD.

³ A link with the permit system in Switzerland has been approved and will be implemented once ratified.

⁴ For the CP2 it refers to carry over from CP1. For the ETS it refers to carry-over from previous trading period under the scheme itself.

⁵ HFCs are also covered by the Kigali Amendment to the Montreal Protocol, which entered into force on the 1st of January 2019.

	International commitments			EU domestic legislation				
	The EU's commitment under the Kyoto Protocol		The EU's commitment under the Paris Agreement	2020 Climate and Energy Package		2030 Climate and Energy Framework		
				EU ETS	Effort Sharing Decision (ESD)	EU ETS	Effort Sharing Regulation (ESR)	LULUCF
Sectors included	Energy, IPPU, agriculture, waste, LULUCF	Energy, IPPU, agriculture, waste, LULUCF	Energy, IPPU, agriculture, waste, LULUCF	Power & heat generation, energy-intensive industry sectors, aviation	Transport (except aviation), buildings, non-ETS industry, agriculture (non-CO ₂) and waste	Power & heat generation, energy-intensive industry sectors, aviation	Transport (except aviation), buildings, non-ETS industry, agriculture (non CO ₂) and waste	Land use, land use change and forestry
GWPs used	IPCC SAR	IPCC AR4	IPCC AR4	IPCC AR4		IPCC AR4		
Applicable to number of MS	15 (additional KP targets for single MS)	EU-28 and Iceland	28 Member States + possibly Iceland and Norway	28 ⁶		28		

⁶ In addition to the 28 MS, Iceland, Liechtenstein and Norway are also covered under the EU-ETS.

2. GREENHOUSE GAS EMISSIONS COVERED BY THE KYOTO PROTOCOL AND THE CLIMATE AND ENERGY PACKAGE

Table 2: Emissions covered by the EU Climate and Energy Package and by the Kyoto Protocol, second commitment period 1990, 2017 and 2020 targets (Mt CO₂-eq. and % change from base year emissions)

	Base year emissions (Mt CO ₂ -eq.)	1990 emissions (Mt CO ₂ -eq.)	2017 emissions (Mt CO ₂ -eq.)	2017 emissions (% change from base year)	2020 targets (Mt CO ₂ -eq.)	2020 target (% change from base year)
Climate and energy package:						
Total GHG emissions, including international aviation (EU Convention scope)	5723	5723	4483	-22%	4578	-20%
Kyoto Protocol:						
Total GHG emissions, excluding international aviation (EU KP scope + Iceland)	5876	5664	4337	-26%	4701	-20%

Table 2 shows progress towards the EU's 2020 targets as defined under the EU Climate and Energy Package and under the Kyoto Protocol. The differences between the two approaches are described in table 1. Notably, emissions from international aviation are included in the Climate and Energy Package, but excluded under the Kyoto Protocol. The geographical scope of the commitment under the Kyoto protocol includes Iceland and certain regions not included in the Climate and Energy Package.

Under the Kyoto Protocol, base year emissions differs from 1990 because some Member States have used a different base year. Moreover, for NF₃ emissions, 1995 or 2000 may have been used as base year.

Under the Kyoto Protocol, Member States also need to account for emissions and removals from certain categories of land use, land use change and forestry (LULUCF) by applying the accounting rules of the Kyoto Protocol. Table 2 does not include emissions and removals from LULUCF. For the EU as a whole, the LULUCF sector has been a net accounted sink in 2013-2017, thereby contributing to achieving the commitment.

3. EU GREENHOUSE GAS EMISSIONS BY SECTOR

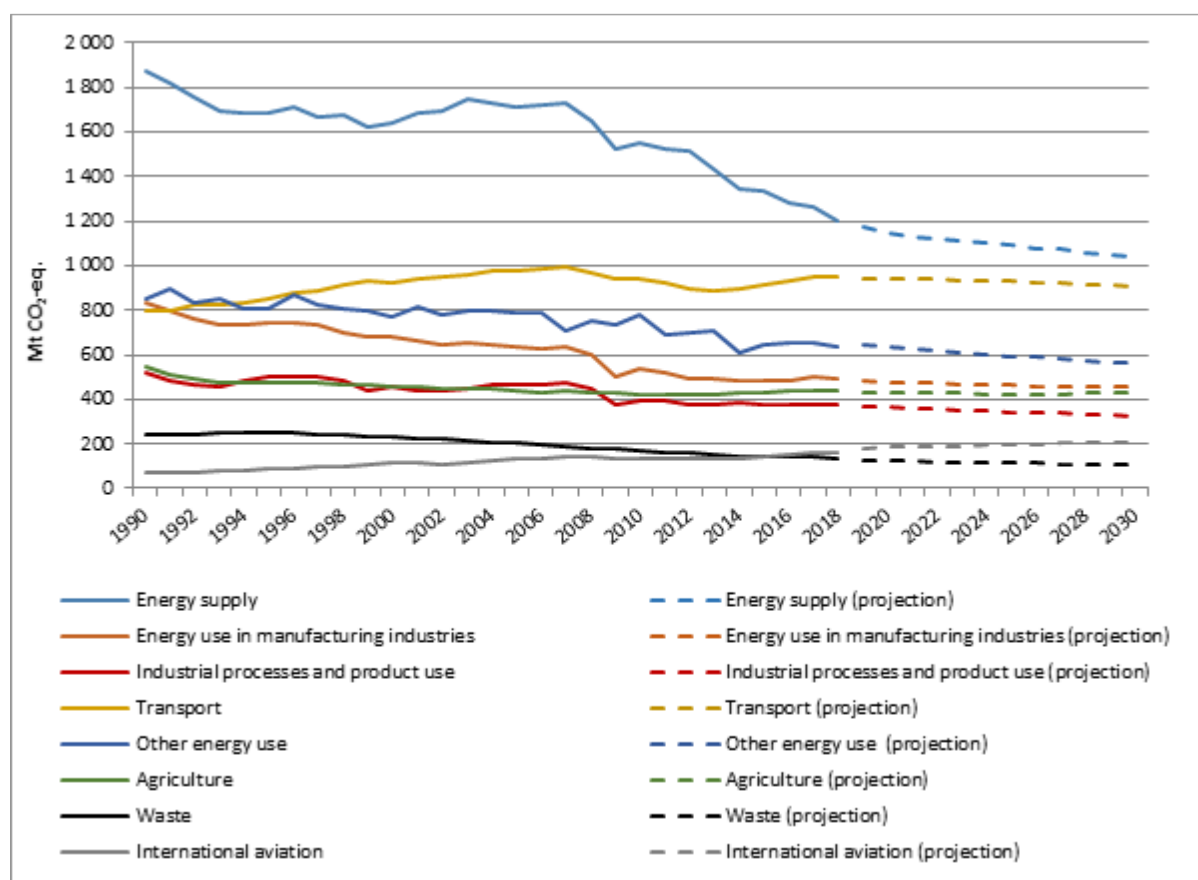


Figure 1: EU greenhouse gas emissions by sector, historical data (1990-2018) and projections (2019-2030).⁷

⁷ Sources: EU greenhouse gas inventory 1990-2017. EU approximated greenhouse gas inventory 2018 (EEA). Member States projections reviewed by EEA (2019).

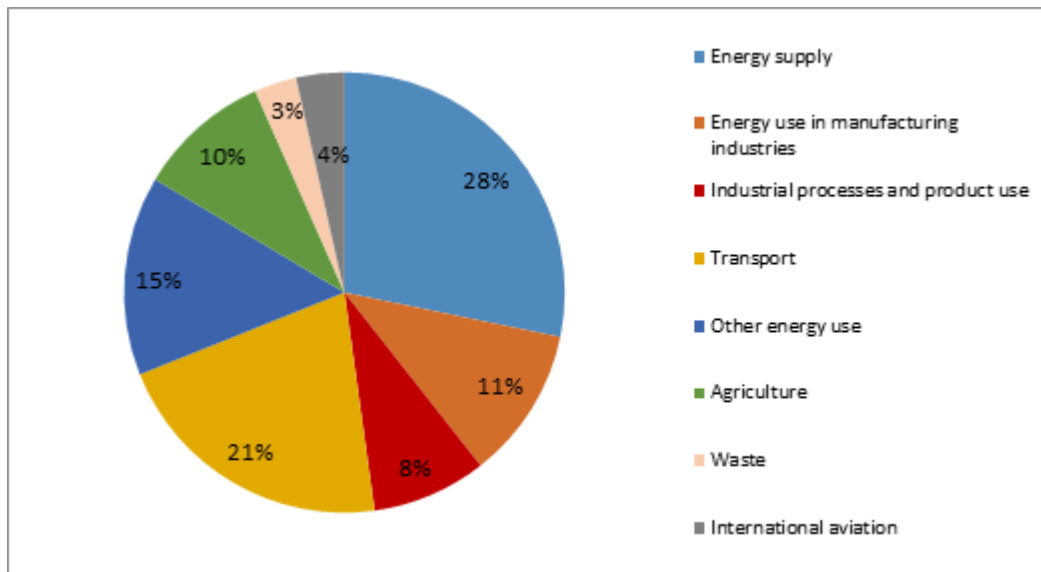


Figure 2: EU greenhouse gas emissions by sector 2017 (in % of total emissions).⁸

The sectors used in Figure 1 and 2 correspond to the following IPCC sectors:

- Energy supply: 1A1, 1B and 1C,
- Energy use in manufacturing industries: 1A2,
- Industrial processes and product use: 2,
- Transport: 1A3,
- Other energy use: 1A4, 1A5 and 6,
- Agriculture: 3,
- Waste: 5,
- International aviation: memo item.

⁸ EU greenhouse gas inventory 1990-2017.

4. GREENHOUSE GAS INTENSITY IN THE EU AND ITS MEMBER STATES

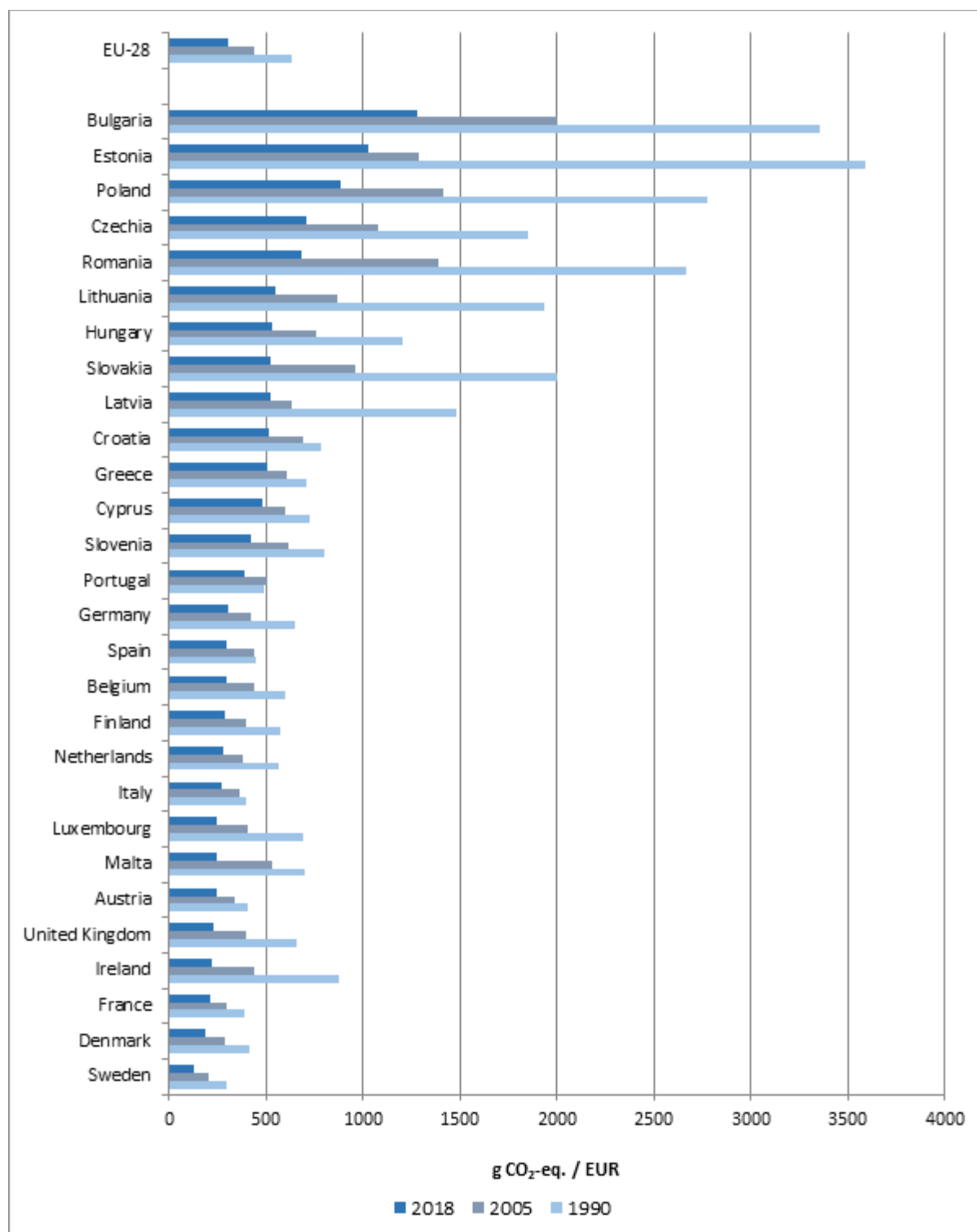


Figure 3: Greenhouse gas emissions intensity (i.e. the ratio between emissions and GDP) in the EU and its Member States 1990, 2005 and 2018 (g CO₂-eq./ EUR).⁹

⁹ Sources: EU greenhouse gas inventory 1990-2017, EU approximated greenhouse gas inventory 2018 (EEA). GDP in 2010-prices, data from Ameco database (European Commission, DG ECFIN).

5. GREENHOUSE GAS EMISSIONS PER CAPITA IN THE EU AND ITS MEMBER STATES

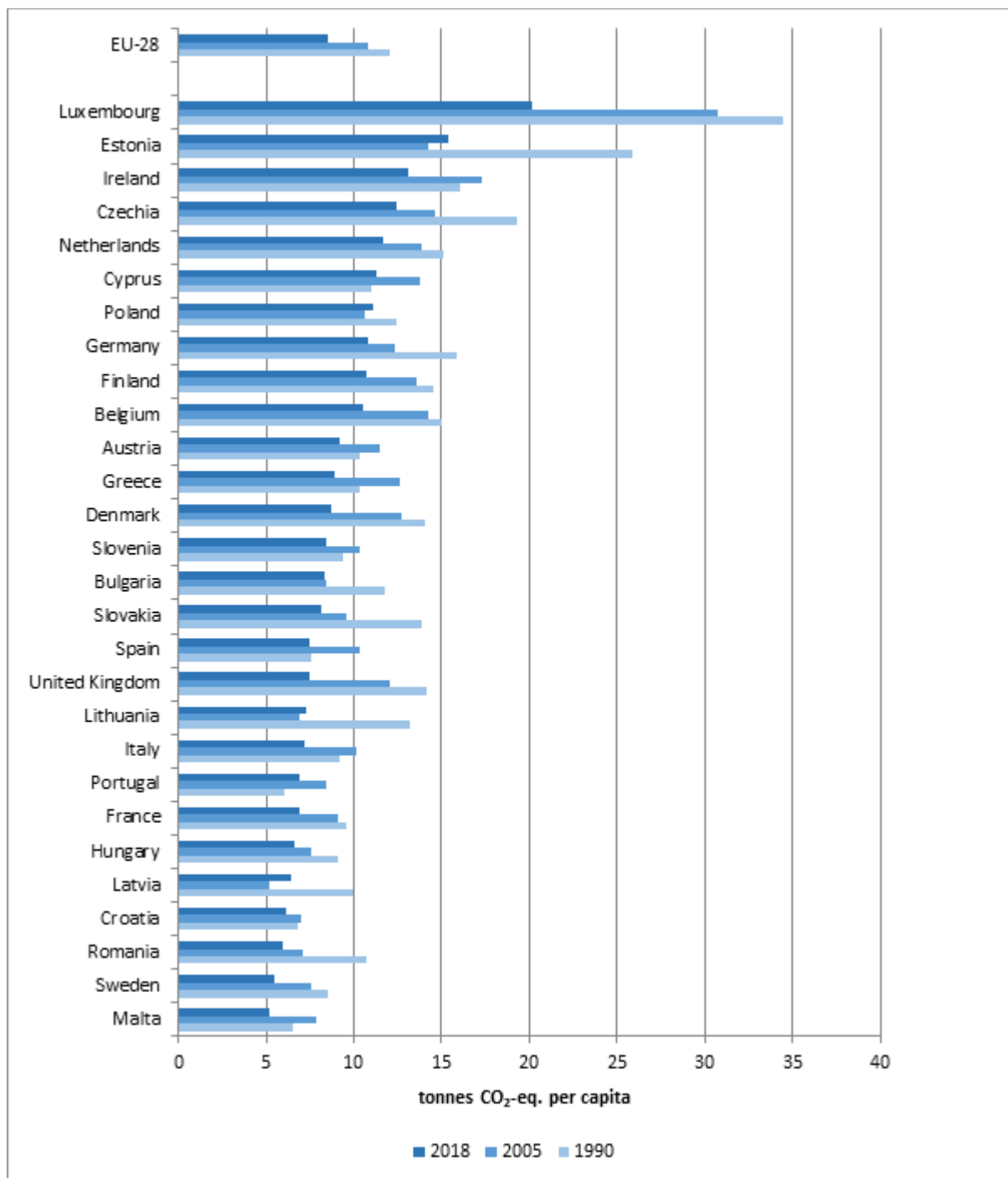


Figure 4: Greenhouse gas emissions per capita in the EU and its Member States 1990, 2005 and 2016 (tonnes CO₂-eq. per capita).¹⁰

¹⁰ Sources: EU greenhouse gas inventory 1990-2017, EU approximated greenhouse gas inventory 2018 (EEA). Average population (total) (Eurostat).

6. EU ETS EMISSIONS

Table 3: Verified ETS emissions from stationary installations (Mt CO₂-eq. and percentage change from year X-1).

	2011	2012	2013	2014	2015	2016	2017	2018
Verified total emissions	1904	1867	1908	1814	1803	1750	1755	1682
Change from year x-1	-1.8%	-2,0%	2.2%	-4.9%	-0.6%	-2.9%	0.2%	-4.1%
Verified emissions from power sector	1190	1184	1125	1037	1032	992	985	913
Change from year x-1		-0,5%	-5,0%	-7,8%	-0,5%	-3,8%	-0,7%	-7,3%
Verified emissions from industrial installations	715	683	783	777	771	758	769	769
Change from year x-1		-4,5%	14,7%	-0,9%	-0,7%	-1,7%	1,4%	-0,1%

7. EMISSIONS COVERED BY THE EFFORT SHARING LEGISLATION

Table 4: Member States targets, historical and projected emissions under the effort-sharing legislation in percentage change from 2005 base year emissions. Distance to targets in percentage points, negative values indicate overachievement while positive values indicate underachievement. WEM = with existing measures, WAM = with additional measures.

Member State	2017 (final data)	2018 (preliminary data)	2020 (projections WEM)	2030 (projections WEM)	2030 (projections WAM)
Austria					
Target	-13%	-14%	-16%	-36%	
Emissions	-9%	-11%	-10%	-16%	
Distance to target	4	3	6	20	
Belgium					
Target	-10%	-11%	-15%	-35%	
Emissions	-12%	-11%	-11%	-13%	-36%
Distance to target	-2	0	4	22	-1
Bulgaria					
Target	17%	18%	20%	0%	
Emissions	20%	21%	15%	8%	
Distance to target	3	3	-5	8	
Croatia					
Target	7%	9%	11%	-7%	
Emissions	-4%	-1%	-8%	-6%	-19%
Distance to target	-12	-10	-19	1	-12
Cyprus					
Target	0%	-1%	-5%	-24%	
Emissions	2%	0%	4%	1%	-2%
Distance to target	2	2	9	25	22
Czechia					
Target	6%	7%	9%	-14%	
Emissions	1%	4%	2%	-12%	-14%
Distance to target	-5	-3	-7	2	0
Denmark					
Target	-13%	-15%	-20%	-39%	
Emissions	-18%	-19%	-21%	-23%	
Distance to target	-5	-4	-1	16	
Estonia					
Target	9%	10%	11%	-13%	
Emissions	14%	17%	9%	12%	-4%
Distance to target	5	7	-2	25	9
Finland					
Target	-11%	-13%	-16%	-39%	
Emissions	-11%	-11%	-15%	-24%	-37%
Distance to target	0	1	1	15	2

Member State	2017 (final data)	2018 (preliminary data)	2020 (projections WEM)	2030 (projections WEM)	2030 (projections WAM)
France					
Target	-10%	-11%	-14%	-37%	
Emissions	-11%	-14%	-13%	-24%	-42%
Distance to target	-1	-2	1	13	-5
Germany					
Target	-10%	-11%	-14%	-38%	
Emissions	-2%	-8%	-9%	-22%	
Distance to target	7	3	5	16	
Greece					
Target	-5%	-5%	-4%	-16%	
Emissions	-27%	-28%	-25%	-25%	-29%
Distance to target	-22	-23	-21	-9	-13
Hungary					
Target	4%	6%	10%	-7%	
Emissions	-10%	-10%	-10%	-4%	-16%
Distance to target	-14	-16	-20	3	-9
Ireland					
Target	-13%	-15%	-20%	-30%	
Emissions	-7%	-4%	-5%	-7%	-13%
Distance to target	6	12	15	23	17
Italy					
Target	-11%	-12%	-13%	-33%	
Emissions	-19%	-18%	-20%	-27%	-36%
Distance to target	-8	-6	-7	6	-3
Latvia					
Target	14%	15%	17%	-6%	
Emissions	8%	8%	7%	-4%	-6%
Distance to target	-6	-7	-10	2	0
Lithuania					
Target	7%	9%	15%	-9%	
Emissions	7%	7%	6%	5%	-1%
Distance to target	0	-3	-9	14	8
Luxembourg					
Target	-14%	-16%	-20%	-40%	
Emissions	-14%	-10%	-15%	-15%	
Distance to target	0	6	5	25	
Malta					
Target	5%	5%	5%	-19%	
Emissions	28%	32%	32%	43%	
Distance to target	23	27	27	62	

Member State	2017 (final data)	2018 (preliminary data)	2020 (projections WEM)	2030 (projections WEM)	2030 (projections WAM)
Netherlands					
Target	-11%	-13%	-16%	-36%	
Emissions	-20%	-20%	-26%	-32%	
Distance to target	-9	-8	-10	4	
Poland					
Target	11%	12%	14%	-7%	
Emissions	18%	21%	14%	14%	
Distance to target	6	9	0	21	
Portugal					
Target	-1%	-1%	1%	-17%	
Emissions	-17%	-16%	-24%	-43%	-47%
Distance to target	-16	-16	-25	-26	-30
Romania					
Target	11%	14%	19%	-2%	
Emissions	0%	-2%	1%	10%	6%
Distance to target	-12	-16	-18	12	8
Slovakia					
Target	9%	10%	13%	-12%	
Emissions	-7%	-5%	-7%	-7%	-21%
Distance to target	-17	-15	-20	5	-9
Slovenia					
Target	3%	3%	4%	-15%	
Emissions	-8%	-7%	-9%	-15%	
Distance to target	-11	-11	-13	0	
Spain					
Target	-8%	-8%	-10%	-26%	
Emissions	-15%	-14%	-14%	-16%	-39%
Distance to target	-7	-6	-5	10	-13
Sweden					
Target	-13%	-14%	-17%	-40%	
Emissions	-25%	-25%	-32%	-40%	
Distance to target	-12	-10	-15	0	
United Kingdom					
Target	-14%	-14%	-16%	-37%	
Emissions	-21%	-21%	-27%	-32%	
Distance to target	-7	-7	-11	5	

Table 5: Annual emissions allocations¹¹, historical and projected emissions and distance to targets under the Effort Sharing Decision (Mt. CO₂-eq.). Positive gap to target indicate overachievement, negative values indicate underachievement. WEM = with existing measures, WAM = with additional measures.

Member State	2005 (base year emissions)	2013	2014	2015	2016	2017	2018 (preliminary data)	2019 (projections WEM)	2020 (projections WEM)
Austria									
AEA		52,6	52,1	51,5	51,0	49,5	48,9	48,3	47,8
Emissions	56,8	50,1	48,2	49,3	50,6	51,7	50,6	51,0	50,9
Distance to target		2,5	3,9	2,2	0,4	-2,1	-1,7	-2,7	-3,2
Cumulative surplus of AEAs		2,5	6,4	8,7	9,0	6,9	5,1	2,4	-0,7
Belgium									
AEA		78,4	76,9	75,3	73,8	72,5	71,1	69,7	68,2
Emissions	80,3	74,3	70,1	72,7	74,1	70,8	71,4	71,5	71,8
Distance to target		4,1	6,8	2,6	-0,3	1,7	-0,3	-1,8	-3,6
Cumulative surplus of AEAs		4,1	10,9	13,5	13,2	14,9	14,6	12,8	9,2
Bulgaria									
AEA		26,9	27,2	27,5	27,7	25,9	26,1	26,3	26,5
Emissions	22,1	22,2	22,9	25,4	25,6	26,5	26,8	25,1	25,4
Distance to target		4,7	4,3	2,1	2,1	-0,6	-0,7	1,3	1,1
Cumulative surplus of AEAs		4,7	9,0	11,1	13,3	12,6	11,9	13,2	14,3
Croatia									
AEA		19,6	19,8	20,0	20,2	18,7	18,9	19,1	19,3
Emissions	17,4	15,1	14,7	15,6	16,0	16,7	17,2	16,1	16,0
Distance to target		4,5	5,1	4,4	4,2	2,0	1,7	3,0	3,3
Cumulative surplus of AEAs		4,5	9,6	14,1	18,2	20,3	21,9	24,9	28,3
Cyprus									
AEA		5,9	5,9	5,9	5,9	4,2	4,1	4,0	4,0
Emissions	4,2	3,9	3,9	4,1	4,1	4,3	4,2	4,4	4,3
Distance to target		2,0	2,0	1,9	1,8	-0,1	-0,1	-0,3	-0,4
Cumulative surplus of AEAs		2,0	4,0	5,8	7,7	7,6	7,5	7,2	6,8
Czechia									
AEA		62,5	63,2	64,0	64,7	65,2	65,9	66,5	67,2
Emissions	61,7	61,5	57,6	61,3	62,8	62,4	64,1	63,4	63,2
Distance to target		1,0	5,6	2,7	1,9	2,8	1,8	3,1	4,0
Cumulative surplus of AEAs		1,0	6,6	9,3	11,2	14,0	15,7	18,9	22,9

¹¹ AEAs for the years 2017-2020 have been recalculated for all Member States to reflect updates in methodologies for reporting of GHG inventories. This recalculation ensures maintaining of the originally intended effort of each Member State (in % of 2005 emissions).

Member State	2005 (base year emissions)	2013	2014	2015	2016	2017	2018 (preliminary data)	2019 (projections WEM)	2020 (projections WEM)
Denmark									
AEA		36,8	35,9	35,0	34,1	34,8	33,9	33,0	32,1
Emissions	40,1	33,7	32,6	32,5	33,1	32,7	32,4	32,3	31,9
Distance to target		3,1	3,3	2,5	1,0	2,1	1,4	0,7	0,2
Cumulative surplus of AEAs		3,1	6,4	8,9	9,9	12,0	13,4	14,1	14,3
Estonia									
AEA		6,3	6,3	6,3	6,4	5,9	6,0	6,0	6,0
Emissions	5,4	5,8	6,1	6,1	6,2	6,2	6,3	6,0	5,9
Distance to target		0,5	0,2	0,2	0,2	-0,3	-0,4	0,0	0,1
Cumulative surplus of AEAs		0,5	0,8	1,0	1,1	0,9	0,5	0,4	0,5
Finland									
AEA		31,8	31,3	30,8	30,3	30,2	29,6	29,1	28,5
Emissions	33,9	31,6	30,1	29,9	31,4	30,1	30,0	29,3	29,0
Distance to target		0,2	1,1	0,9	-1,0	0,1	-0,4	-0,3	-0,5
Cumulative surplus of AEAs		0,2	1,3	2,2	1,2	1,3	0,9	0,6	0,1
France									
AEA		394,1	389,5	384,4	379,4	358,2	352,9	347,7	342,5
Emissions	398,2	366,1	353,5	353,0	351,9	352,8	343,1	347,1	345,4
Distance to target		28,0	35,9	31,4	27,5	5,4	9,9	0,6	-3,0
Cumulative surplus of AEAs		28,0	63,9	95,3	122,8	128,2	138,1	138,6	135,6
Germany									
AEA		472,5	465,8	459,1	452,4	432,3	425,2	418,1	410,9
Emissions	477,8	460,2	436,8	444,1	454,2	466,9	441,2	440,4	436,6
Distance to target		12,3	29,0	15,1	-1,7	-34,5	-16,0	-22,4	-25,7
Cumulative surplus of AEAs		12,3	41,4	56,4	54,7	20,2	4,2	-18,2	-43,9
Greece									
AEA		59,0	59,3	59,6	59,9	59,1	59,4	59,7	60,0
Emissions	62,6	44,2	44,4	45,4	44,9	45,4	44,9	46,4	46,9
Distance to target		14,8	14,9	14,2	15,0	13,7	14,6	13,4	13,2
Cumulative surplus of AEAs		14,8	29,6	43,8	58,8	72,5	87,1	100,4	113,6
Hungary									
AEA		50,4	51,5	52,6	53,8	50,1	51,0	51,9	52,8
Emissions	48,0	38,4	38,4	41,4	42,1	43,1	43,3	43,1	43,1
Distance to target		12,0	13,1	11,2	11,7	6,9	7,7	8,8	9,8
Cumulative surplus of AEAs		12,0	25,1	36,3	47,9	54,9	62,5	71,3	81,1

Member State	2005 (base year emissions)	2013	2014	2015	2016	2017	2018 (preliminary data)	2019 (projections WEM)	2020 (projections WEM)
Ireland									
AEA		46,9	45,8	44,6	43,5	40,9	39,8	38,7	37,7
Emissions	47,1	42,2	41,7	43,0	43,8	43,8	45,4	44,6	44,6
Distance to target		4,7	4,1	1,6	-0,3	-2,9	-5,6	-5,9	-6,9
Cumulative surplus of AEAs		4,7	8,8	10,4	10,1	7,1	1,6	-4,3	-11,2
Italy									
AEA		308,2	306,2	304,2	302,3	298,3	295,8	293,4	291,0
Emissions	334,5	273,3	265,3	273,3	270,7	270,1	274,8	269,8	268,1
Distance to target		34,8	40,9	31,0	31,6	28,1	21,1	23,6	22,9
Cumulative surplus of AEAs		34,8	75,7	106,7	138,3	166,4	187,5	211,0	233,9
Latvia									
AEA		9,3	9,4	9,4	9,5	9,7	9,8	9,9	10,0
Emissions	8,5	8,8	9,0	9,0	9,1	9,2	9,2	9,1	9,1
Distance to target		0,5	0,3	0,4	0,4	0,5	0,6	0,8	0,9
Cumulative surplus of AEAs		0,5	0,8	1,3	1,7	2,2	2,8	3,6	4,5
Lithuania									
AEA		12,9	13,3	13,7	14,0	14,1	14,5	14,9	15,2
Emissions	13,3	12,4	12,9	13,3	13,9	14,1	14,1	13,9	14,1
Distance to target		0,5	0,4	0,4	0,1	0,0	0,4	0,9	1,2
Cumulative surplus of AEAs		0,5	0,9	1,3	1,4	1,4	1,7	2,7	3,8
Luxembourg									
AEA		9,5	9,3	9,1	8,9	8,7	8,5	8,3	8,1
Emissions	10,1	9,4	8,9	8,6	8,5	8,7	9,1	8,7	8,6
Distance to target		0,2	0,5	0,5	0,4	0,0	-0,6	-0,4	-0,5
Cumulative surplus of AEAs		0,2	0,7	1,2	1,6	1,6	1,0	0,7	0,2
Malta									
AEA		1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
Emissions	1,1	1,3	1,3	1,3	1,3	1,4	1,5	1,4	1,5
Distance to target		-0,1	-0,1	-0,1	-0,2	-0,3	-0,3	-0,3	-0,3
Cumulative surplus of AEAs		-0,1	-0,2	-0,3	-0,5	-0,8	-1,1	-1,3	-1,6
Netherlands									
AEA		122,9	120,7	118,4	116,1	114,1	111,8	109,6	107,4
Emissions	127,8	108,3	97,9	101,1	101,3	102,3	101,8	95,5	94,1
Distance to target		14,7	22,8	17,3	14,8	11,7	10,0	14,1	13,2
Cumulative surplus of AEAs		14,7	37,5	54,8	69,6	81,3	91,3	105,4	118,7

Member State	2005 (base year emissions)	2013	2014	2015	2016	2017	2018 (preliminary data)	2019 (projections WEM)	2020 (projections WEM)
Poland									
AEA		193,6	194,9	196,1	197,4	200,0	201,7	203,4	205,2
Emissions	180,0	186,1	181,5	186,8	198,7	211,5	218,0	201,8	205,5
Distance to target		7,5	13,3	9,4	-1,3	-11,5	-16,3	1,6	-0,3
Cumulative surplus of AEAs		7,5	20,9	30,2	29,0	17,4	1,1	2,8	2,5
Portugal									
AEA		49,3	49,6	49,9	50,1	47,9	48,3	48,7	49,1
Emissions	48,6	38,6	38,8	40,6	41,6	40,2	40,8	37,9	37,1
Distance to target		10,7	10,8	9,2	8,6	7,7	7,5	10,8	12,0
Cumulative surplus of AEAs		10,7	21,5	30,7	39,3	47,0	54,5	65,3	77,4
Romania									
AEA		75,6	77,5	79,3	81,1	84,1	86,0	87,9	89,8
Emissions	75,5	72,7	72,5	74,6	73,1	75,4	74,3	76,0	76,5
Distance to target		2,9	4,9	4,7	8,0	8,7	11,7	11,8	13,3
Cumulative surplus of AEAs		2,9	7,8	12,5	20,5	29,2	40,9	52,8	66,0
Slovakia									
AEA		24,0	24,4	24,7	25,1	25,0	25,3	25,6	25,9
Emissions	23,0	21,1	19,8	20,1	19,8	21,2	21,9	21,4	21,4
Distance to target		2,9	4,6	4,7	5,3	3,8	3,4	4,3	4,5
Cumulative surplus of AEAs		2,9	7,5	12,2	17,5	21,3	24,8	29,0	33,6
Slovenia									
AEA		12,3	12,4	12,4	12,4	12,2	12,2	12,3	12,3
Emissions	11,8	10,9	10,5	10,7	11,2	10,9	11,0	10,7	10,7
Distance to target		1,4	1,9	1,7	1,2	1,3	1,3	1,5	1,6
Cumulative surplus of AEAs		1,4	3,3	4,9	6,1	7,4	8,7	10,2	11,8
Spain									
AEA		227,6	225,6	223,7	221,8	218,3	216,3	214,3	212,4
Emissions	236,0	200,3	199,8	196,2	198,5	201,1	202,7	202,1	202,6
Distance to target		27,3	25,9	27,6	23,3	17,2	13,6	12,3	9,7
Cumulative surplus of AEAs		27,3	53,2	80,8	104,1	121,3	134,9	147,2	156,9
Sweden									
AEA		41,7	41,0	40,4	39,8	37,8	37,2	36,7	36,1
Emissions	43,5	35,3	34,5	33,9	32,6	32,5	32,7	30,4	29,4
Distance to target		6,4	6,5	6,5	7,2	5,3	4,5	6,2	6,6
Cumulative surplus of AEAs		6,4	12,9	19,4	26,6	31,9	36,4	42,6	49,3

Member State	2005 (base year emissions)	2013	2014	2015	2016	2017	2018 (preliminary data)	2019 (projections WEM)	2020 (projections WEM)
United Kingdom									
AEA		358,7	354,2	349,7	345,2	360,4	357,2	354,1	350,9
Emissions	417,8	339,5	324,4	326,0	333,9	332,1	329,4	312,8	306,0
Distance to target		19,3	29,8	23,7	11,3	28,4	27,8	41,3	44,9
Cumulative surplus of AEAs		19,3	49,1	72,7	84,0	112,4	140,2	181,6	226,5

8. USE OF REVENUES FROM AUCTIONING OF ETS ALLOWANCES

Table 6: Member States' revenues from auctioning of ETS allowances (EUR million), amounts spent on climate and energy purposes (EUR million) and share of the revenues spent on climate and energy purposes (%), 2013-2018.¹²

Member State	2013	2014	2015	2016	2017	2018
Austria*¹³						
Total revenues	55,8	53,6	78,6	59,5	157,4	210,4
Amount spent on climate and energy	37,0	54,8	79,8	59,9		
Share spent on climate and energy	66%	102%	102%	101%		
Belgium						
Total revenues	115,0	97,1	141,6	107,9	145,1	381,5
Amount spent on climate and energy	0,0	0,0	0,0	37,5	133,1	213,7
Share spent on climate and energy	0%	0%	0%	35%	92%	56%
Bulgaria						
Total revenues	52,6	36,4	121,8	85,3	130,4	368,2
Amount spent on climate and energy	51,3	36,2	103,5	94,1	138,2	368,2
Share spent on climate and energy	97%	99%	85%	110%	106%	100%
Croatia						
Total revenues	N/A	N/A	87,0	46,1	27,2	71,5
Amount spent on climate and energy	N/A	N/A	50,8	46,1	18,9	71,5
Share spent on climate and energy	N/A	N/A	58%	100%	70%	100%
Cyprus						
Total revenues	1,9	0,7	1,4	0,4	6,4	26,0
Amount spent on climate and energy	0,5	0,4	2,8	0,3	0,8	6,4
Share spent on climate and energy	28%	55%	195%	88%	12%	25%
Czechia						
Total revenues	80,7	55,7	111,5	118,0	199,8	584,4
Amount spent on climate and energy	73,2	26,9	110,9	117,4	199,8	367,3
Share spent on climate and energy	91%	48%	99%	100%	100%	63%
Denmark*						
Total revenues	56,0	48,1	71,3	53,7	71,7	189,8
Amount spent on climate and energy	56,0	48,1	71,3	53,7	71,7	189,8
Share spent on climate and energy	100%	100%	100%	100%	100%	100%
Estonia						
Total revenues	18,1	7,4	21,3	23,6	39,4	141,3
Amount spent on climate and energy	9,0	3,6	9,5	12,4	15,9	53,3

¹² Values for 2013-2015 are based on the study “*Analysis of the use of Auction Revenues by the Member States*” by Rambøll for the European Commission (2017). Values for 2016-2018 are presented as reported by the Member States. For France, Lithuania and Slovenia, the total revenues in 2018 are based on data from the auction platform EEX, see Member States’ reports on https://ec.europa.eu/clima/policies/ets/auctioning_en#tab-0-1

¹³ For 2017 and 2018, Austria has not reported amounts spent on climate and energy purposes. Austria has reported that the total spending on such purposes was larger than the auction revenues in these years.

Member State	2013	2014	2015	2016	2017	2018
Share spent on climate and energy	50%	49%	44%	52%	40%	38%
Finland*						
Total revenues	67,0	63,5	93,8	71,2	95,3	251,8
Amount spent on climate and energy	2,0	31,1	93,8	71,2	9,5	251,8
Share spent on climate and energy	3%	49%	100%	100%	10%	100%
France						
Total revenues	219,2	215,3	312,1	234,7	313,4	829,6
Amount spent on climate and energy	219,2	215,3	312,1	0,0	313,4	550,0
Share spent on climate and energy	100%	100%	100%	0%	100%	66%
Germany						
Total revenues	790,9	750,0	1110,2	850,4	1146,8	2581,7
Amount spent on climate and energy	790,9	750,0	1110,2	845,6	1130,8	2563,0
Share spent on climate and energy	100%	100%	100%	99%	99%	99%
Greece						
Total revenues	147,6	131,1	195,2	148,1	198,0	523,5
Amount spent on climate and energy	142,5	116,7	177,2	148,1	198,0	523,5
Share spent on climate and energy	97%	89%	91%	100%	100%	100%
Hungary						
Total revenues	49,4	56,5	83,3	63,4	85,1	226,5
Amount spent on climate and energy	17,3	13,1	32,8	22,4	68,1	65,9
Share spent on climate and energy	35%	23%	39%	35%	80%	29%
Ireland*						
Total revenues	41,7	36,0	41,7	40,1	53,6	142,1
Amount spent on climate and energy	41,7	36,0	41,7	40,1	53,6	142,1
Share spent on climate and energy	100%	100%	100%	100%	100%	100%
Italy						
Total revenues	427,9	408,6	543,4	411,2	549,8	1453,4
Amount spent on climate and energy	214,7	207,5	0,0	118,1	383,7	148,4
Share spent on climate and energy	50%	51%	0%	29%	70%	10%
Latvia						
Total revenues	10,8	10,2	15,3	11,5	15,4	40,7
Amount spent on climate and energy	0,0	0,1	0,1	7,4	3,8	12,3
Share spent on climate and energy	0%	1%	1%	64%	25%	30%
Lithuania						
Total revenues	20,0	17,3	28,4	20,8	31,5	80,4
Amount spent on climate and energy	20,0	17,3	28,4	20,8	31,5	80,4
Share spent on climate and energy	100%	100%	100%	100%	100%	100%
Luxembourg*						
Total revenues	5,0	5,2	6,8	5,1	6,9	18,3
Amount spent on climate and energy	2,5	2,9	3,5	2,6	3,5	9,2
Share spent on climate and energy	50%	56%	52%	51%	50%	51%
Malta*						
Total revenues	4,5	3,9	6,2	4,5	6,0	15,7

Member State	2013	2014	2015	2016	2017	2018
Amount spent on climate and energy	4,5	3,9	6,2	4,5	6,9	4,9
Share spent on climate and energy	100%	100%	100%	100%	116%	31%
Netherlands*						
Total revenues	134,2	131,1	187,3	142,6	190,7	504,2
Amount spent on climate and energy	134,2	131,1	187,3	141,6	190,7	504,2
Share spent on climate and energy	100%	100%	100%	100%	100%	100%
Poland*						
Total revenues	244,0	78,0	132,8	136,1	506,0	1202,3
Amount spent on climate and energy	128,7	39,0	68,5	68,1	290,4	609,9
Share spent on climate and energy	53%	50%	52%	50%	57%	51%
Portugal						
Total revenues	72,8	67,1	99,2	75,1	100,3	265,6
Amount spent on climate and energy	71,4	65,0	83,7	82,5	95,1	201,2
Share spent on climate and energy	98%	97%	84%	110%	95%	76%
Romania						
Total revenues	122,7	97,9	195,2	194,0	260,8	719,1
Amount spent on climate and energy	91,2	67,7	42,5	52,0	0,0	160,0
Share spent on climate and energy	74%	69%	22%	27%	0%	22%
Slovakia						
Total revenues	61,7	57,6	84,5	65,0	87,1	229,8
Amount spent on climate and energy	0,1	15,0	15,1	21,7	40,9	55,6
Share spent on climate and energy	0%	26%	18%	33%	47%	24%
Slovenia¹⁴						
Total revenues	17,7	16,6	24,4	18,7	25,1	66,3
Amount spent on climate and energy	8,9	8,3	24,4	18,7	25,1	
Share spent on climate and energy	50%	50%	100%	100%	100%	
Spain						
Total revenues	346,1	330,1	489,5	364,5	493,6	1306,0
Amount spent on climate and energy	346,1	370,2	387,8	343,6	445,5	788,6
Share spent on climate and energy	100%	112%	79%	94%	90%	60%
Sweden*						
Total revenues	35,7	33,6	52,4	38,6	52,6	136,3
Amount spent on climate and energy	35,7	18,9	30,5	21,7	28,8	76,5
Share spent on climate and energy	100%	56%	58%	56%	55%	56%
United Kingdom*						
Total revenues	485,4	401,5	586,3	424,3	614,8	1620,7
Amount spent on climate and energy	485,4	401,5	586,3	419,0	614,8	1334,2
Share spent on climate and energy	100%	100%	100%	99%	100%	82%

*Member States that do not earmark auction revenues.

¹⁴ Slovenia has not reported on the use of auctioning revenues in 2018 (by 15.10.2019).